Performance Audit
Concurrent Review:
ERP Pre-Solicitation

April 2002

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City Auditor's Office

City of Kansas City, Missouri

24-2001

April 10, 2002

Honorable Mayor and Members of the City Council:

We conducted this concurrent review of the pre-solicitation phase of the city's enterprise resource planning (ERP) acquisition project to provide rapid feedback to city staff regarding project risks. Our goal is to help city staff identify and manage risks while the project is underway, while maintaining audit independence. Government auditing standards preclude us from participating in management decisions that could affect our independence for future audits. The purpose of this report is to update the Mayor and City Council on the ERP project status before the city releases an RFP for software and implementation.

The city plans to purchase ERP software with modules for finance, purchasing, payroll, human resources, budget preparation, and revenue collection. The ERP is intended to replace aging systems, streamline processes, and integrate management information.

We participated in the executive oversight steering committee and business process cross-functional teams in an advisory capacity. We also issued seven memos to the director of Information Technology between July 2001 and March 2002, addressing the following subjects:

- Project oversight structure and staffing
- Previous audit recommendations relevant to assessing system needs
- City Council information needs
- Initial needs assessment inputs
- Internal communications
- Business Case Report
- The process to revise functional requirements

We sent a draft copy of this report to the City Manager and the Director of Information Technology on March 29, 2002. Their written responses are included as appendices. We appreciate the courtesy and cooperation of city staff extended to us throughout this project. The audit team for this project was Vivien Zhi and Amanda Noble.

Mark Funkhouser
City Auditor

Concurrent Review: ERP Pre-Solicitation

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Introduction

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Objectives

We conducted this audit of the city's enterprise resource planning (ERP) pre-solicitation activities pursuant to Article II, Section 13 of the Charter of Kansas City, Missouri, which establishes the Office of the City Auditor and outlines the City Auditor's primary duties.

A performance audit is an objective, systematic examination of evidence to independently assess the performance of a government organization, program, activity, or function in order to provide information to improve public accountability and facilitate decision-making.[1] We designed this concurrent audit to help management identify and manage risks while the ERP project is ongoing. During the pre-solicitation phase our objectives were to help ensure that:

- project staffing is appropriate;
- user needs are adequately assessed; and
- benefits, costs, and risks of alternatives are identified and considered.

We are also reviewing the draft RFP to help ensure that it is complete, reflects user needs, and clearly describes selection criteria.

The purpose of this report is to provide information to the Mayor and City Council on the project before the city releases an RFP for software and implementation services. The 1998 Public Safety Radio Investigating Committee found that lack of communication with the City Council and lack of Council oversight were factors contributing to the problems the city experienced in acquiring and implementing the public safety radio system.[2]

Our fiscal year 2002 budget review noted that the city planned substantial investments in information technology, including ERP, and recommended the city continue to monitor and manage the risks associated with these investments.[3]

[1] Comptroller General of the United States, *Government Auditing Standards* (Washington, DC: U.S. Government Printing Office, 1994), p. 14.
[2] *Report of the Public Safety Radio System Investigating Committee*, September 1998.
[3] *Review of the Submitted Budget For Fiscal Year 2002*, Office of the City Auditor, Kansas City, Missouri, February 2001.

Scope and Methodology

We reviewed the city's work to assess needs and develop requirements and a business case for ERP. We conducted this audit in accordance with generally accepted government auditing standards. Our methods included:

- Participating as non-voting members of the Executive Oversight Steering Committee and Business Process Cross-Functional teams.
- Reviewing literature and audits from other agencies to compile criteria for good practices in information technology (IT) acquisition and implementation.
- Attending meetings to develop requirements and review current processes.
- Reviewing project team documents and methods to gather information.
- Interviewing city staff and elected officials.
- Reviewing prior audits.

We issued seven memos to the Director of Information Technology between July 2001 and March 2002. (See Appendix A for copies of the memoranda.) No information was omitted from this report because it was deemed privileged or confidential.

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Background

Enterprise Resource Planning (ERP)

The city is looking into replacing its core financial and other applications with an ERP system. ERP – enterprise resource planning – is an integrated information system intended to bring all the information about dollars, hours, projects, and employees into one database. The ERP will replace aging systems. It is intended to help streamline processes and make information easier to share among departments. The integrated software requires less customization than previous stand-alone and legacy systems, making it easier to upgrade and maintain. The

applications and business functions under consideration for replacement are:

- general ledger;
- accounts receivable;
- purchasing, encumbrances, and accounts payable;
- property, inventory, and asset management;
- human resources;
- benefits administration;
- payroll;
- time collection;
- budget preparation;
- cash administration;
- project and grant accounting;
- tax collection;
- revenue collection; and
- investment management

All city departments will be affected by the new system. The proposed scope of the ERP system includes interfaces with existing city systems, including the Oracle financial systems currently implemented by Water Services and the Aviation Department. Over time, Water Services and the Aviation Department would be expected to migrate to the new ERP system.

Large Information Technology Projects Are Risky

The U.S. General Accounting Office (GAO), Offices of Inspectors General, Kansas Legislative Division of Post Audit, and other organizations have identified problems with IT acquisitions. Common problems identified in numerous computer-related evaluations and audits include information systems that do not meet users' needs, exceed cost estimates, or take significantly longer than expected to complete.

Many IT projects fail due to inadequate support from senior management, lack of user involvement in planning, inadequate staffing, and reliance on a vendor who is selling a particular product to assess needs.

Information Technology Acquisition Process

The GAO developed a model IT acquisition process.[4] The model describes three phases in the acquisition process: pre-solicitation, solicitation and award, and post award. This model is intended to give an overview of the acquisition process and to help decrease acquisition risks. Following the model can increase the likelihood that an acquisition will meet an agency's needs at a reasonable cost and in a timely manner. We used this model and GAO's audit guide in conducting this concurrent review.[5]

The primary activities in the pre-solicitation phase are initiating the project, analyzing requirements, identifying alternatives, and preparing an acquisition plan and specifications. (See Exhibit 1.)

Exhibit 1. Acquisition Phases

Phases	Steps in Each Phase
Pre-solicitation	• Project initiation • Analyze requirements • Identify alternatives • Prepare acquisition plan • Prepare specifications
Solicitation and Award	• Maintain project structure • Prepare solicitation • Release solicitation • Evaluate proposals • Negotiate with vendors • Select contractor
Post-award and Implementation	• Establish contract management • Monitor contract performance • Test and accept system

Source: GAO/IMTEC-8.1.4, Assessing Acquisition Risks.

City Project Organization

Several groups are working on the ERP project.

Executive Oversight Steering Committee. Department heads or their designees make up the city's ERP Executive Oversight Steering Committee (EOSC). The committee serves as a policy and oversight

[4] U.S. General Accounting Office, *Information Technology: A Model to Help Managers Decrease Acquisition Risks*, August 1990.

[5] U.S. General Accounting Office, *Information Technology: An Audit Guide for Assessing Acquisition Risks*, December 1992.

body and meets once a month. The committee is composed of 22 members, representing 12 departments.

The directors of Finance, Human Resources, and Information Technology are the primary stakeholders of the project because they have organizational responsibility for the core functions of ERP. These directors are more actively involved in the project. They, the directors of Public Works and Water, and the head of the Police Department's fiscal planning division formed a subcommittee so that some issues can be discussed on a more timely basis.

ERP Project Team. Department directors assigned project team members to work on the ERP project. Some of the project team members work on a full-time basis, some have other department responsibilities in addition to ERP. Team members' primary responsibility is to participate in all activities related to the ERP project. The project manager is certified in project management and has extensive experience managing technology contracts. Team members represent internal and operational departments and have a mix of skills relevant to ERP. Members are from Finance (system and payroll), Human Resources, and enterprise fund departments (Water and Aviation). Members have backgrounds in information technology, finance and accounting, and human resources.

Business Cross-Functional Team. Department directors assigned representatives to the Business Cross-Functional Team. Currently there are 38 members on the team – Finance has 6 representatives and Water Services has 5 representatives on the team. The cross-functional team is responsible for carrying out the decisions and following the directions of the EOSC. The team meets once a week to discuss issues related to the project and provides feedback to the project team and departments.

Gartner Consulting. Ordinance No. 011208 authorized the City Manager to enter into a contract with Gartner Consulting. Their primary responsibilities are to assist the city in identifying an enterprise-wide solution to replace and enhance the decentralized systems currently performing its core business activities and to assist in preparing a RFP for the acquisition of an ERP system.

Exhibit 2. ERP Acquisition Phase I Schedule

Activity	Start	End
Project planning	7/30/01	10/12/01
Needs assessment	8/21/01	10/23/01
RFP development	10/8/01	6/17/02
Vendor proposal assessment	6/17/02	9/9/02
Contract negotiation	9/16/02	10/25/02

Source: ERP Project Schedule.

System implementation (phase II) is expected to take 24 months to complete.

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Findings and Recommendations

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Summary

The city has followed a number of good practices in planning for the ERP acquisition.

- Senior managers and system users are involved in the project.
- The project team has an appropriate mix of skills and experience.
- Project team members have been assigned to the project full time.
- The city has not relied on a software vendor to assist in assessing needs.
- The needs assessment was inclusive.
- The needs assessment considered system architecture and capacity.
- The project team and consultant developed a strong business case.

Following good practices such as these increases the likelihood that the city will implement a system that meets its needs. However, the city will face significant challenges in implementing a new system.

Gartner's Business Case Report (March 2002) clearly identifies the primary implementation risks. These include managing process changes to avoid costly system modifications, committing adequate resources in both time and money to fully implement and maintain the system, and working with more complex technology and security needs. We believe the most difficult challenges relate to governance, change management, and system acceptance. The city's current processes are decentralized. An integrated system will require strong, centralized decision-making. City departments will need to follow standard practices to achieve the benefits of ERP.

Identifying risks is the first step in managing them. Strong leadership, transparent decision-making, clear roles and responsibilities, frequent and consistent communication, and ongoing training will be necessary for a successful implementation.

Good Planning Should Help Reduce Risk of Project Failure

Project Oversight Structure and Staffing Are Appropriate

The city followed a number of good practices in staffing the ERP project. These practices should help reduce risk that the project will fail to meet the city's needs.

The city's Executive Oversight Steering Committee involves senior managers. Successful information technology projects depend on senior management involvement and support throughout the project. Senior management should define the project's goals and objectives and oversee the project. If senior managers are not involved, the project could suffer from lack of resources or turf squabbles. The Executive Oversight Steering Committee is composed of department heads, assistant city managers, and senior managers from 12 departments. The committee meets once a month and reviews and approves project documents.

We recommended forming a subcommittee of EOSC so it would allow issues to be discussed more frequently as they arise and provide guidance to the project team. The City Manager verbally appointed the directors of Finance, Human Resources, Information Technology, Public Works, Water Services and the head of the fiscal planning division of the Police Department to be the members of the EOSC subcommittee. This group meets at least once a week to discuss issues and review documents.

System users are involved in the project. Successful information technology projects also depend on user involvement throughout the project. Users are staff and managers who operate or rely on the information resources supported by the system. If users are not involved in the acquisition, the resulting system could be missing important pieces and not meet day-to-day agency needs. System users are involved in the cross-functional team and as subject matter experts in focus groups that worked to identify functional requirements.

The project team has an appropriate mix of skills and experience. Projects often fail because staff lack expertise or are expected to continue their regular duties while also working on computer projects. The acquisition team should have the necessary skills and authority to effectively plan and execute the acquisition. Project staff should be assigned clear roles and responsibilities and have enough time to complete their tasks. The project team comprises a full-time project manager and five full-time and three part-time team members representing internal service and operational departments. Members have a mix of skills with backgrounds in information technology, finance

and accounting, human resources, and operations. Members from the Law Department and Police Department have assisted the team on a part-time basis.

In addition to in-house expertise, the city contracted with an independent consultant to assist in developing a communications plan, needs assessment, business case, and RFP. Some computer projects have failed because an agency relied on a software vendor with a particular product to sell to help with the needs assessment.

We made several recommendations to the Director of Information Technology during the pre-solicitation phase regarding oversight, staffing, and clarifying roles and responsibilities.

Needs Assessment Process Was Reasonable, But Highlights Challenges

Gartner Consulting and the city's project team followed a reasonable process to identify user needs and existing system architectures. However, some staff involved had a difficult time separating functional requirements from existing processes and organizational structure. This increases the risk that the city will fail to streamline processes while implementing ERP and thus fail to achieve the benefits of ERP.

We identified 43 recommendations from previous audits and interviewed the chairs of four City Council committees or their aides to help identify functional needs for the system.

The needs assessment process was inclusive. The city's project team and Gartner Consulting conducted focus groups to define system requirements. Participants were selected based on their familiarity with city processes, the number and complexity of transactions they process, and to get a mix of internal service and operating department perspectives. The consultants provided groups with lists of common requirements compiled from other governments. Groups met several times to discuss the baseline requirements and additional city requirements. The project team solicited feedback several times while requirements were discussed and revised.

The needs assessment process was structured. Project team members and consultants facilitated the meetings. Facilitators used a structured process to help ensure that requirements are complete. Facilitators encouraged participants to consider and write requirements in terms of function – what the system needs to do – rather than process.

The project team worked with consultants to identify existing system architectures, and consider potential interfaces and capacity needs.

Draft functional requirements are consistent with prior audit recommendations. To assist with needs assessment, we reviewed audit recommendations contained in reports released from 1989 through August 2001. We identified 43 recommendations relevant to ERP planning. These generally dealt with the need to systematically record, monitor, and analyze program and financial data. We also recommended automating internal controls.

We also interviewed the chairs of four City Council committees or their aides to identify City Council information needs that could be addressed by ERP. While Council members and their aides rarely access financial or program information directly from current systems, they recognize a need for city staff to have easier access to more timely program and cost information.

The draft requirements are consistent with our prior audit recommendations and the need to better integrate cost and program information. However, the extent to which the system will be able to address these needs will also depend on decisions made during implementation. For example, changes will need to be made to the current chart of accounts to allow more detailed tracking of program information.

The needs assessment highlighted implementation challenges. While the process for defining requirements was reasonable, some participants had a difficult time separating function (what the system needs to do) from process (how the city does it now) and organizational structure (who does it). Some participants also had difficulty thinking about improvements to current processes and identified a number of constraints that are not really constraints. For example, participants thought that state records retention requirements prohibit automating current paper-based processes such as time cards, which is not the case. There was some disagreement among participants about the appropriate roles of various departments and divisions. Participants also described different procedures and different systems used in different departments to accomplish standard tasks such as timekeeping and payroll.

The city risks automating current processes rather than streamlining to achieve the benefits of ERP if users are unable to separately consider processes and functions. The project team and Gartner Consulting conducted educational demonstrations to show users how an ERP system can work.

The City Manager should periodically reiterate the purpose of the ERP to department heads and stress that processes and flow of information will change. Turf battles should be discouraged. Strong leadership, transparent decision-making, and clear communication are needed to overcome disagreements among departments and skepticism among staff who have seen previous technology efforts stall or fail.

We made recommendations to the Director of Information Technology on how to structure executive oversight steering committee meetings to strengthen their role in decision-making. We also recommended that the project team work on implementing the communications plan. The project team has developed an intranet site to communicate with city staff and are making use of the EPMO database to communicate with cross-functional team members.

Business Case Identifies Benefits, Costs, and Risks

Guidelines for reducing risk in information technology acquisitions suggest that organizations should assess alternatives for meeting identified needs and assess whether the acquisition is consistent with the organization's overall information technology strategy.

The city project team and Gartner Consulting developed a strong business case that identifies benefits, costs, and risks of an ERP system. The business case appears realistic in light of user needs, expected changes in the technology, and expected availability of maintenance and other support. The budget estimates appear comprehensive, including one-time and ongoing costs for system components and services, estimates for application software, software installation, conversion, and training. Implementing an ERP system and redesigning processes is consistent with the city's overall strategy of focusing on citywide applications and minimizing customization.

City processes are fragmented. The business case identified current business challenges the city is facing. Currently, the city uses more than 22 separate systems to partially automate its financial and business processes. The lack of system integration and limited system functionality results in challenges for the city, such as proliferation of manual tasks, increased processing time, limited information access, and lack of internet readiness.

The business case report recommends implementing an ERP system and re-designing city processes to be consistent with the selected software to reduce business challenges, streamline city operations, improve service delivery, develop e-government strategies, and manage and reduce the

overall risk to the city. This recommendation is consistent with the city's information technology strategy developed through KC-GO.

One-time and ongoing costs are identified. The business case also identified costs associated with implementing an ERP system for the city including both one-time and ongoing costs. Some technology projects have failed due to lack of resources because costs were underestimated or the cost of staff time was not considered.

The one-time costs of an ERP system for the city are estimated to be within a range of $18.7 million and $28.2 million. Ongoing system maintenance costs are estimated to be between $2.5 million to $4.1 million. Almost half of the estimated one-time costs are for integration services, which include application software implementation, training, data conversion, vendor project management, and out-of-pocket expenses. The cost of staff time for people participating on the project and the backfill of their positions are included. (See Exhibit 3.)

Exhibit 3. Estimated System Costs

Cost Category	One-Time Costs		Ongoing Costs	
	Low	High	Low	High
Hardware and System Software	$ 450,000	$ 630,000	$ 90,000	$ 120,000
Infrastructure	250,000	500,000	45,000	100,000
Application Software	3,300,000	5,000,000	400,000	900,000
Database Management System Software (DBMS)	80,000	160,000	18,000	36,000
Implementation Services	8,500,000	11,250,000	N/A	N/A
Enhancements	1,000,000	2,000,000	N/A	N/A
Upgrades and Fixes	N/A	N/A	500,000	750,000
Staffing	3,000,000	4,125,000	1,000,000	1,350,000
Facilities	120,000	240,000	N/A	N/A
Contingency	1,000,000	2,000,000	425,000	825,000
Total	$18,700,000	$28,207,000	$2,478,000	$4,081,000

Source: Business Case Report.

Implementation risks are identified. The city's project team and Gartner Consulting have identified the primary risks of implementing an ERP system. We believe the most difficult challenges relate to governance, change management, and system acceptance. The city's current processes are decentralized. An integrated system will require strong, centralized decision-making. City departments will need to follow standard practices to achieve the benefits of ERP. However, identifying risks is the first step in managing them.

Risks Identified by Business Case

Governance. A new governance model will need to be established to allow the ERP system to be managed to the benefit of all city departments.

Change Management. The implementation of an ERP system will require business process reengineering, which will place a tremendous responsibility on departments to embrace change.

Resources. Staff commitment will be critical for a successful implementation.

Time. Implementing an ERP system could require up to two years to complete. The number of city resources applied to the project and the approach will determine the implementation timeframe.

Technology. Advanced technology and enhanced application functionality add complexity to the operation and support of the system. This requires training for the technical support staff to become proficient in new skill sets.

Training. Training on the use of the new system is essential. Ongoing citywide training will also be necessary to ensure the continued success.

System Maintenance. The city must be prepared to allocate the resources necessary to test and implement major releases and upgrades to the ERP system.

Security. Increased system functionality increases the need for effective security policies, procedures, and administration.

Disaster Recovery and Business Continuity Planning. ERP implementation will require the city to assess disaster recovery and business continuity planning.

System Acceptance and Utilization. Success of the ERP will largely depend on acceptance of the system by the staff. City departments may be reluctant to abandon 'shadow' systems, become proficient with the new technology, and use the system as intended.

Source: Business Case Report, March 2002, pp. 21-22.

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Recommendations

We made several recommendations to the Director of Information Technology Department in seven memos between July 2001 and March 2002.

1. The Director of Information Technology should issue a letter of appointment to the project manager establishing his authority, responsibility, and accountability.

2. The City Manager should identify the project sponsor who is responsible and accountable for the acquisition.

3. The Director of Information Technology should clearly define the roles and responsibilities of the subcommittee of the Executive Oversight Steering Committee.

4. In the implementation phase, the Director of Information Technology should ensure that staffing for the implementation team is based on the skills and level of resources needed rather than department representation.

5. While planning for ERP, the Director of Information Technology should consider ways to automate internal controls within the system, and integrate program and financial data to allow for timely monitoring, analysis, and reporting.

6. The Director of Information Technology should encourage discussion in the EOSC meeting; summarize consensus points and decisions in writing; and distribute the meeting minutes among EOSC members, the project team, and the cross-functional team.

7. The Director of Information Technology should ensure the communication plan is completed and implemented as soon as it is feasible.

8. The EOSC should reassess the project timeline.

9. The Director of Information Technology should identify a requirement revision process.

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Appendix A

Memoranda to the Director of Information Technology

Inter-Departmental Communication

DATE: July 10, 2001

TO: Gail Roper, Director of Information Technology

FROM: Mark Funkhouser, City Auditor

SUBJECT: ERP Project Oversight Structure and Staffing

We have reviewed the ERP project oversight structure and staffing and are writing this memo to provide feedback for your use in managing project risks. We chose this topic to address issues raised in discussions with you. We based our review primarily on criteria from the U.S. General Accounting Office's (GAO) *Information Technology: An Audit Guide for Assessing Acquisition Risks*.

Summary

Senior managers and users are involved in the ERP acquisition project. The core acquisition team, defined in the phase I staffing plan, has the appropriate mix of skills and experience to manage the project. However, the city manager should identify the project sponsor who is responsible and accountable for the acquisition. We also suggest you issue a letter of appointment to the project manager establishing his authority, responsibility, and accountability. These actions will clarify responsibilities to effectively plan and execute the acquisition.

The initial focus on ensuring department representation has created groups that are too large to be effective. Both the executive oversight committee and the cross-functional team have created at least informal subcommittees, which is a reasonable way to manage the size of the groups. The roles and responsibilities of the subcommittees, however, should be clearly defined. The cross-functional team has identified 258 subject matter experts, which is probably too many to use effectively. The effort to be so inclusive could backfire, as people are less involved in decision-making than they were originally lead to expect. In the implementation phase, we suggest you ensure that staffing for the implementation team is based on the skills and level of resources needed rather than department representation.

Issues and Observations

Management and User Support Essential

Senior management involvement and support throughout an acquisition is essential for the project's success. Senior management should envision the acquisition

goals, define objectives, and oversee the project. In addition, the project should have a sponsor who is responsible and accountable for the acquisition.

Users should also be involved and provide support throughout the acquisition to ensure that their requirements are understood and that the resulting system is accepted and used. Users are those who operate or rely on organization information resources and include the managers and staff responsible for agency policies and programs supported by the acquisition. User involvement in the acquisition process will help avoid the development of products that ultimately do not meet agency requirements.

Executive Oversight Committee involves senior managers. Department heads or their designees make up the city's ERP executive oversight committee. The committee serves as a policy and oversight body and meets once a month. The committee is composed of 22 members, representing 12 departments. The committee's roles and responsibilities are defined and reiterated at every meeting.

The directors of Finance, Human Resources, and Information Technology are the primary stakeholders of the project because they have organizational responsibility for the core functions of ERP. These directors are more actively involved in the project and have met informally to discuss project needs. Some representatives from operating departments expressed frustration and complained that they are being left out of the process, that decisions are already made and out of their control. While it is appropriate for the Finance, Human Resources, and Information Technology directors to work more closely with the project and meet more often than once a month, their role as a subcommittee should be formalized with clearly defined roles and responsibilities.

Users are involved in the cross-functional team. Department directors assigned representatives to the cross-functional team. Currently there are 30 members on the team – Finance and Water Services each have 5 representatives on the team. About 18 members regularly attend the weekly meetings. The cross-functional team is responsible for carrying out day-to-day functions. The team has worked in subcommittees to develop the contract scope of work with Gartner Group, draft staffing requirements for phase I of the project, and compile a list of subject matter experts to assist with needs assessment.

Users have also been identified as subject matter experts. Cross-functional team members were asked to submit names of subject matter experts knowledgeable about the core and operational business systems from their departments. The subject matter experts are intended to participate in focus groups to help the consultant conduct needs analysis. Because every city department was required to submit subject matter experts for 12 functional areas, 258 individual subject matter experts have been listed so far.

Size of subject matter expert group is too big to be effective. The cross-functional team has identified 258 subject matter experts, which is probably too many to use effectively. Current plans are to hold 12 focus groups based on functional areas. However, focus groups work best with 6 to 12 participants. Larger groups are difficult to moderate and it is difficult to ensure that everyone actively participates. The effort to be so inclusive could backfire, as people are less involved in decision-making than they

were originally lead to expect. The project team should select a smaller group for the focus groups and be clear with subject matter experts about their scope of involvement.

Project sponsor should be formally identified. The project sponsor is responsible and accountable for the acquisition. The EOC and cross-functional team have acknowledged that the city manager is the project sponsor. However, it may not be clearly communicated throughout the rest of the organization. The role of the project sponsor should be made visible and explicit.

Acquisition Team Needs Appropriate Skills and Authority

The acquisition team should have the necessary skills and authority to effectively plan and execute the acquisition. Project management for an acquisition is accomplished primarily by a project manager and staff responsible for carrying out project activities. The project manager should have sufficient authority and an appropriate mix of skills and experience to successfully manage the project. The acquisition project staff should be assigned clear roles and responsibilities. The team should include members who are skilled in the information technology procurement process, understand the technology, and have experience in managing contracts. The team should also have members knowledgeable about the programs that the acquisition is to support.

Core project team has appropriate mix of skills and experience. A subcommittee of the cross-functional team developed a staffing plan with defined roles. The core project team comprises a full time project manager, two full time assistant project managers, four full time project facilitators, and a project attorney. The project manager is certified in project management and has extensive experience managing technology contracts. Team members represent internal and operational departments and have a mix of skills relevant to ERP. Members are from Finance (system and payroll), Human Resources, and enterprise fund departments (Water and Aviation). Members have backgrounds in information technology, finance and accounting, and human resources.

Formal appointment would clarify project manager's role. GAO suggests that the project manager should have a charter to establish authority, responsibility, and accountability. According to the project manager, the EOC has not issued a formal letter establishing his authority to manage the project and there is no formal letter from city manager of his appointment. You or the EOC should issue a letter of appointment to the project manager establishing his authority, responsibility, and accountability to clarify his responsibilities in planning and executing the ERP acquisition.

Staffing for implementation team should be based on skills needed rather than department representation. While the core acquisition team has the appropriate skills to manage phase I of the project, the process to establish the cross-functional team did not guarantee this outcome. When selecting staff for the implementation team, we suggest you first identify the skills and resources needed to successfully implement the new system. This would ensure an appropriate mix of skills and experience to manage the system implementation.

If you have any questions, please feel free to contact me or Leslie Ward.

Inter-Departmental Communication

DATE: July 27, 2001

TO: Gail Roper, Director of Information Technology

FROM: Mark Funkhouser, City Auditor

SUBJECT: Previous Audit Recommendations

We have reviewed audit recommendations from our work that could be relevant to assessing needs for the ERP project. We are writing this memo to provide information for your use in managing project risks. We reviewed recommendations contained in reports released from 1988 to the present.

Summary

We identified 43 recommendations that should be considered in planning for the ERP. The recommendations relate to finance and accounting, asset management, purchasing, work order management, human resources, fleet management, grants accounting, and tax collection. Generally our recommendations dealt with the need to systematically record, monitor, and analyze program and financial data. Some recommendations were more specific – identifying data or process requirements, such as specific performance measures, and implementing an automated three-way match to process invoices. While planning for ERP, we suggest you explicitly consider ways to automate internal controls within the system, and integrate program and financial data to allow for timely monitoring, analysis, and reporting.

Issues and Observations

Financial and Accounting. The system should provide easily accessible cost and revenue information at the program and subprogram levels. We have recommended a number of cost related performance measures, such as operating costs per recreation program hour, cost per city work station, and tracking fixed and variable snow removal costs. We also have recommended tracking cost recovery for fee-supported programs and the degree to which dedicated revenues cover program costs.

Asset Management. The system should facilitate reconciliation of inventories, purchases, and disbursements, and should maintain accountability for the city's assets. Our recommendations have focused on the need to strengthen controls over inventories, fixed assets, and cash.

Purchasing. The system should automate and streamline the control environment. We have recommended implementing an automated three-way match

(purchase order, invoice, and receiving report) to process invoices. We also have made recommendations to update vendor files and automate vendor compliance checks.

Work Order Management. The system should allow management to track and monitor a program's workload, timeliness, and performance. We have made a number of recommendations regarding the need to monitor program performance, using measures such as timeliness of park maintenance repairs and comparing work hours to benchmarks. We have also recommended tracking contractor compliance in minor home repairs.

Human Resources. The system should integrate information, eliminate the need for duplicate data entry into multiple systems, and provide for monitoring trends in the workforce. We recommend in a forthcoming follow-up audit of the Human Resources Department that the new system allow applicants to complete one job application for consideration for any job for which he/she is qualified and interested. The current system requires Human Resources staff to enter applicant information by job. We are also recommending that the Human Resources Department track trends in hiring, diversity, promotions, and turnover.

Fleet Management. The system should facilitate tracking performance measures and operating costs, scheduling preventive maintenance, and developing vehicle replacement plans. We have recommended the Public Works motor equipment division develop procedures and training to guide in the consistent use of the fleet management system enabling use of the system to reliably track performance measures, including downtime and re-work. It is noteworthy that the current system was designed to track performance, but inconsistent coding and work order processing limited the system's usefulness.

Grants Accounting. The system should facilitate accurate accounting and reporting of grant-funded program revenues and expenditures. We have recommended that departments gather and maintain information on the costs associated with administering grant funds that are reimbursable under OMB Circular A-87.

Tax Collection. The system should allow for processing electronic tax payments. We have recommended the finance director explore alternatives and promote electronic tax payments as a way to speed tax payment processing. We have also recommended that the Finance Department track unpaid sewer special assessments.

Attached is a spreadsheet that lists the audit recommendations related to these areas. While most of the recommendations are specific to individual programs, we believe they have broader applicability for ERP system requirements. If you have any questions, please feel free to contact Leslie Ward or me.

Attachment

Report	Release Date	Recommendations	Related Functional Area
Accident, Damage and Loss Follow Up	01/01	The city manager should integrate the collection, analysis and reporting of accident, damage, and loss information into a comprehensive risk management information program.	Asset Management
Accident, Damage and Loss	03/97	The directors of Finance and Business Affairs should work together to establish procedures and implement a system for collecting, analyzing and reporting information about accidents, damages and losses involving city assets.	Asset Management
Accident, Damage and Loss	03/97	The director of Finance should require that the input fields for serial numbers and purchase order numbers in the FMS fixed assets module be mandatory entry fields.	Asset Management
Golf Course Inventory Controls Follow Up	10/00	The director of Parks and Recreation should ensure concession inventory items are added to the point of sale inventory system.	Asset Management and Financial and Accounting
Vital Statistics Program Follow Up	03/00	The program manager should ensure that monies collected, sales records, and documents used are reconciled on a daily basis.	Asset Management and Financial and Accounting
Motor Equipment Division	02/99	The superintendent of the motor equipment division should strengthen controls over inventory. At a minimum, the division should develop written policies and procedures for conducting inventory counts, with proper segregation of duties so individuals who are responsible for distributing inventory items do not conduct counts. The division should reconcile beginning and ending inventory with purchases and report significant discrepancies to the director of public works.	Asset Management and Financial and Accounting
Change Funds and Petty Cash	04/96	The city manager and, as applicable, the director of the Parks and Recreation Department should require daily accounting of assigned change funds and timely accounting of convertible inventories.	Asset Management and Financial and Accounting
Information Technology Department Performance Measures	03/01	The director of Information Technology should track ITD's budget as a percent of citywide technology spending.	Financial and Accounting
Information Technology Department Performance Measures	03/01	The director of Information Technology should track return on investment and cost per workstation.	Financial and Accounting

Report	Release Date	Recommendations	Related Functional Area
Parks and Recreation Department Recreation Program Performance Measures	03/00	The director of Parks and Recreation should prepare a resolution for consideration by the Board of Parks and Recreation Commissioners to adopt following recommended performance measures: -General fund support – general fund transfers as a percent of total program costs. -Cost recovery – program-generated revenue as a percent of program operating costs. -Operating cost per capita, operating cost per participant hour, operating cost per program hour.	Financial and Accounting
Review of the Submitted Budget for Fiscal Year 1999	04/98	The city manager should provide more information in the budget document about the source of revenues for programs and subprograms, the degree to which dedicated revenue support the programs for which they were authorized and the level of cost recovery for fee-supported programs.	Financial and Accounting
Fees and Service Charges	02/98	The city manager should further direct departments to begin tracking the revenues collected for each fee-based activity in a manner that allows the revenues collected for each fee to be individually identified.	Financial and Accounting
Fees and Service Charges	02/98	The city manager should establish a system to monitor departments as they track fee revenues and expenditures and calculate actual cost recovery rates to ensure that this work is completed satisfactorily. The developed system should include routine comparison of actual cost recoveries to those established by City Council policies and the periodic reporting of the results of this comparison to the Council for review and comment. The developed system should also include a mechanism for periodic review and adjustment of the fee amounts charged and the established cost recovery goals.	Financial and Accounting
Fire Department Worker's Compensation Program	04/96	The city manager should develop and maintain a system for routine monitoring and reporting of the aggregate amount of the city's worker' compensation supplemental payments.	Financial and Accounting

Report	Release Date	Recommendations	Related Functional Area
Tow Service Program	01/95	The directors of Public Works and Finance should develop an information system to track the vehicles sold at auction, their condition, and bid amount in order to determine the effectiveness of changes made in the auction process.	Financial and Accounting
Wholesale Water Sales	04/94	The director of the Water Department should work with personnel from the finance department's information system division to expand the new computerized billing system to include computer calculation and updating of minimum purchase amounts.	Financial and Accounting
Snow Removal Program	02/94	The street and traffic division manager should continue to develop annual snow removal budget proposals based on expenditures and weather patterns for an average year. In addition, he should also establish cost benchmarks for storms of varying magnitude for the purpose of providing a standard for comparison. Analysis should be based on historical expenditure and weather information and should include development of an estimate of fixed costs for storms.	Financial and Accounting
Fire Resource Allocation Follow Up	09/00	The fire chief should report workload periodically and use this information combined with response time when choosing a station location or reallocating staff or equipment to a more optimal location.	Fleet and Work Order Management
Snow Removal Follow Up	07/99	The city manager should develop and implement an equipment replacement funding program to provide for the systematic funding and replacement of city vehicles and equipment.	Fleet Management
Motor Equipment Division	02/99	The superintendent of the motor equipment division should develop procedures and training to guide in the consistent use of the fleet management system to enable use of the system to reliably track performance measures, including downtime and re-work.	Fleet Management
Fire Apparatus Management Follow Up	05/95	The director of Fire should work with the public works department to determine the data to be maintained and best use of the new purchased fleet management information system. At a minimum, the system should be used for scheduling preventative maintenance, tracking lifetime maintenance and operating costs, and developing an economic life replacement plan for replacing apparatus at the most optimum replacement points.	Fleet Management

Report	Release Date	Recommendations	Related Functional Area
Fees and Service Charges	02/98	The city manager should direct departments to gather and maintain information on the costs associated with administering grant funds that are reimbursable under OMB Circular A-87. The city manager should submit these costs along with the developed cost allocation plan to the federal government for approval. Once approved, the city manager should ensure departments begin seeking reimbursements of the allowable costs.	Grants Accounting
Domestic Violence Program	01/92	The program director should implement proper internal controls and procedures to ensure accuracy in accounting and reporting program expenditures. Controls should also be implemented to ensure that resources are used in accordance with conditions set forth in grant contracts.	Grants Accounting
Human Resources Department Follow Up	08/01	The director of Human Resources should take the opportunities provided through charter changes, if implemented, and implementing the city's ERP system to review and revise current hiring procedures. Procedures should allow applicants to fill out one application for consideration for any job for which the applicant is interested and qualified.	Human Resources
Human Resources Department Follow Up	08/01	The director of Human Resources should consider data needs for workforce planning and monitoring the outcomes of citywide human resources practices when preparing for the city's ERP system.	Human Resources
Fire Worker's Comp Program	04/96	The city manager should develop a system to monitor aggregate worker's compensation costs and types of injuries. The system should be used to analyze the nature of the injuries, improve efforts of preventing similar injuries in the future, and minimize future costs.	Human Resources
Human Resources	03/95	The director of Human Resources should develop a plan for updating the department's information technology. The plan should include development of a comprehensive personnel information system with an interface between applicant and requisition information. The system should also provide for electronic transfer of data between operating departments and the human resources department.	Human Resources

Report	Release Date	Recommendations	Related Functional Area
Information Technology Department Performance Measures	03/01	The director of Information Technology should track percent of project management milestones met and for major initiatives, project time and cost variance.	Project Accounting
Information Technology Department Performance Measures	03/01	The director of Information Technology should track turnaround time for purchases.	Purchasing
Financial Management System Controls	12/98	The director of Finance should continue to investigate the feasibility of implementing a three-way match (purchase order, invoice and receiving report). This should include identifying possible obstacles and determining whether these can be overcome with procedural or other system changes.	Purchasing
Red Flag Recommendation Implementation	12/98	The city manager should develop a policy requiring that a central contracting authority review contracts, maintain a master contract file, and provide contracting assistance to operating departments.	Purchasing
Human Relations Department Follow Up	12/91	The Human Relations Department and the purchases and supplies division should eliminate all discrepancies between their vendor files, purge inactive vendors and create a master listing of vendors. This is necessary so that the files may be combined into the Extended Purchasing System of the FMS scheduled to be operational in 1992.	Purchasing
Human Relations Department Follow Up	12/91	The Human Relations Department and the purchases and supplies division should ensure that the following functions are automatically performed by the Extended Purchasing System: -Change of affirmative action codes to ineligible status upon expiration -Summation of purchase orders awarded to vendors limited to $5,000 of city business per fiscal year and, if the limit is exceeded, change of affirmative action codes to ineligible status.	Purchasing
Minor Home Repair Program Follow Up	03/99	The program manager should use information in the program's database to develop expected contract completion times, routinely track elapsed job times, and enforce contract time limits.	Purchasing and Project Accounting
Revenue Division	05/01	The finance director should continue to explore and promote electronic processing alternatives.	Tax Collection

Report	Release Date	Recommendations	Related Functional Area
Sanitary Sewer Assessment	09/96	The finance director should develop a system for tracking individual unpaid sewer special assessment bills.	Tax Collection
Information Technology Department Performance Measures	03/01	The director of Information Technology should track the number of service requests by type (help desk, change control, project management), number of system maintained (mainframe, network, phone system), number of IT related purchase requests, percent of help desk requests resolved in "x" time, and percent of help desk requests resolved the first time.	Work Order Management
Parks Maintenance Follow Up	02/96	The manager of the park maintenance services division should implement a time keeping and reporting system using the software purchased for this purpose. Data collected through the system should be used to provide management with information regarding the division's use of work hours; compare actual hours required to complete assigned tasks against established standards and identify hours in excess of standards; monitor the amount of time allocated to each activity category; make comparisons between each district's use of resources; identify inefficiencies in scheduling; assess and prepare reports on district/division productivity, maintenance needs and staffing levels; and prepare and track work orders for miscellaneous repairs as well as routine maintenance tasks.	Work Order Management
Parks Maintenance Follow Up	02/96	The manager of the park maintenance services division should develop procedures designed to use the division's computer program to prepare, track, and document repair request work orders, and to analyze the timeliness of repairs against priority time standards.	Work Order Management
Minor Home Repair Program	06/94	The director of Housing and Community Development should develop a system to track the time elapsed from job award to job completion, and enforce reasonable time limits as prescribed in the minor home repair.	Work Order Management
Dangerous Buildings Program	04/94	The property conservation manager should develop standards for staff workload, process timeliness and program performance, as information becomes available from the new computer system.	Work Order Management

Report	Release Date	Recommendations	Related Functional Area
Air Quality Control Program	12/91	The program manager should develop and implement a system of documenting time spent reviewing individual applications for new source construction or major modification.	Work Order Management
Minor Home Repair Program Follow Up	03/99	The program manager should develop and implement procedures to ensure that contractor participation requirements are routinely verified, updated, and enforced.	Work Order Management and Purchasing

Inter-Departmental Communication

DATE: September 21, 2001

TO: Gail Roper, Director of Information Technology

FROM: Mark Funkhouser, City Auditor

SUBJECT: City Council Information Needs

We interviewed the chairs of four City Council committees or their aides to assess the City Council's information needs that could be addressed through the ERP project. We are writing this memo to provide information for your use in managing project risks.

Summary

Council members and their aides rarely access financial or program information from current systems. They generally request information from the city manager or program staff. Some council members recognize a need for city staff to have access to more timely program and cost information. We recently recommended that the city manager provide the Finance and Audit Committee expanded quarterly financial updates to include program performance information and risk assessments to inform the Council of emerging issues. ERP, if it integrates program and cost information, could be a useful tool in implementing this recommendation.

Issues and Observations

The council members and aides that we talked to said that they generally do not access information directly from the city's information systems. Except for looking up ordinances on-line, they generally rely on information from the city manager or program staff. Some aides told us that they could look up information in KIVA. All of the council members and aides that we talked to said they request information regarding the status of capital projects.

While the council members we talked to did not express an interest in accessing information themselves, they identified a need for city staff to have better and more accessible cost and performance information. Improved access to such data would allow staff to respond more quickly to the Council's requests for information. Council members expressed an interest in unit cost data to use in allocating resources and in performance data to monitor activities. Council members also expressed an interest in focusing on outcomes.

We noted in our recent report, Budget Process Practices (August 2001), that elected officials' oversight role could be strengthened by quarterly program updates and risk assessments. Although processes are in place to monitor and make corrections to the city's financial activities, corresponding processes are not currently in place for program activities. We recommended that the city manager provide the Finance and Audit Committee expanded quarterly financial updates to include program performance information and risk assessments to inform the Council of emerging issues. ERP could provide a tool to strengthen monitoring and reporting of program activities.

Inter-Departmental Communication

DATE: September 28, 2001

TO: Gail Roper, Director of Information Technology

FROM: Mark Funkhouser, City Auditor

SUBJECT: Review of Initial Needs Assessment Inputs

We reviewed preliminary information sent to Gartner and attended the 12 focus group meetings Gartner facilitated (September 5-7, 2001) to understand user needs, opportunities, and constraints. We are providing information for your use in managing project risks. We know that you recognize that problems in planning can lead to time-consuming and costly modifications to projects, users failing to accept the new system, or not achieving hoped for functionality. We will continue reviewing information that the project team gathers throughout the needs assessment.

Summary

Gartner and the city's project team are following a reasonable process to identify and consider user needs and existing architectures. However, some city staff involved in defining needs are having a difficult time separating functional requirements (what we need the system to do) from existing processes (how we do it now) and organizational structure (who does it). This increases the risk that the city will fail to streamline processes while implementing ERP and thus fail to achieve the benefits of ERP.

The project team is preparing educational demonstrations to help users consider opportunities and potential changes in processes. While we agree that educating users is a good idea, we think more action will be needed. We recommend two additional strategies: stronger leadership from top management; and frequent, consistent communication. Because education and communication efforts will take time, the Executive Oversight Steering Committee should also reassess the timeline for completing the RFP.

Issues and Observations

A technology acquisition should be based on clearly understood needs or opportunities and consistent with the overall strategy and architectures used by the city. Gartner's process to identify the city's needs and information technology architecture and strategy seems reasonable.

City has followed some best practices. Thus far, the city has followed a number of best practices regarding needs assessment and planning. The city hired an independent consultant who is not trying to sell us a specific software package to conduct the needs assessment. Full time project staff have been assigned to the project. People who will use the system are involved in defining system requirements. These practices help mitigate planning risks.

Project team faces challenges. While the process for assessing needs is reasonable, our observations of the focus groups lead us to conclude the project team faces some challenges. First, several of the user focus groups have had difficulty articulating their needs. It was difficult for some groups to separate current processes and organizational structure (how something is done and who does it) from function (what needs to be done). Participants also had difficulty thinking about improvements to current processes and identified a number of constraints that aren't really constraints. For example, participants thought that state record retention requirements prohibit automating current paper-based processes, which is not the case. Second, because current systems are fragmented, it is difficult to gather information on current and projected volume. We recommend the project team note the source of data while gathering information to complete the templates on volumes. Consistent documentation will allow the project team to assure that information gathered is complete and accurate.

The city risks automating current processes rather than streamlining to achieve the benefits of ERP if users are unable to identify functional requirements in a way that takes advantage of ERP's data integration. Gartner and the project team are preparing educational vendor demonstrations to help users think about potential changes to processes. We agree that educating city staff about what ERP has to offer is a good idea. We raised some concerns with the project team and the Executive Oversight Steering Committee about ensuring that the demonstrations do not affect the city's later evaluation of vendors or appear to give particular vendors a competitive advantage. The project team drafted a clear explanation of the purpose of the vendor demonstrations and is working with Gartner to ensure the instructions to vendors are clear.

Strong leadership and frequent, consistent communication needed. In addition to the educational effort, the Executive Oversight Steering Committee and the project team should continue to work with Gartner to develop ways to help employees separate and critically consider form and function. We do not think there are easy answers, although strong leadership and frequent, consistent communication should help.

The city manager should periodically reiterate the purpose of the ERP to department heads and stress that processes and the flow of information will change. Turf battles should be discouraged. Strong leadership is needed to overcome disagreements among departments and skepticism among staff who have seen previous technology efforts stall or fail. A clear decision-making process is a characteristic of strong leadership. You should encourage discussion and deliberation in the Executive Oversight Steering Committee, then summarize consensus points and decisions aloud at the meeting and in writing in meeting minutes.

Communication plan should be implemented. The project team should ensure that the communications plan is completed and implemented as soon as is feasible. The communications plan is the first expected contract deliverable, however the project has moved ahead without the communications plan in place. The project team should also develop guidelines for use of the EPMO database to improve internal communications between the Executive Oversight Steering Committee, project team, and cross-functional team.

Reconsider the timeline. Finally, the Executive Oversight Steering Committee should reassess the project timeline, which consultants initially told us is aggressive. We recognize the need to move ahead with the project, but the city shouldn't hurry through the needs assessment to meet a self-imposed deadline. The project team needs time to educate users and implement the communications plan. Getting it right now is more important than meeting an aggressive deadline.

If you have any questions, please feel free to call me or Amanda Noble.

Inter-Departmental Communication

DATE: October 19, 2001

TO: Gail Roper, Director of Information Technology

FROM: Mark Funkhouser, City Auditor

SUBJECT: Strengthening Internal Communication

We have observed several meetings of the Executive Oversight Steering Committee, project team, and cross-functional team. We are reiterating earlier recommendations and providing additional suggestions to help strengthen internal communications in order to help you manage project risks.

Summary

We have previously recommended that the role of the directors of Finance, Human Resources, and Information Technology as an EOSC subcommittee be clearly defined and made formal.[1] We have also recommended that you encourage discussion and deliberation in the Executive Oversight Steering Committee, then summarize consensus points and decisions aloud at the meeting and in writing in meeting minutes.[2] Implementing these recommendations would help to address concerns that decisions are not clear and there is a "shadow group" that is making decisions behind the scenes. We offer additional ideas on how to structure EOSC meetings to strengthen their role in making decisions.

Issues and Observations

During our participation in project meetings, we observed some confusion or concern over the status of decisions and who is responsible for making decisions. We are aware that you have made an effort to involve all departments in the ERP planning, however, some participants have expressed concern about the existence of a "shadow group" making decisions behind the scenes. This perception, whether accurate or not, feeds the fear that the system will not meet operating departments' needs.

Formalize EOSC subcommittee. Because the EOSC is large and meets only once per month, we continue to think it is appropriate for a smaller group to discuss issues more frequently as they arise to provide guidance to the project team. The

[1] Memorandum from City Auditor Mark Funkhouser to Information Technology Director Gail Roper, July 10, 2001.

[2] Memorandum from City Auditor Mark Funkhouser to Information Technology Director Gail Roper, September 28, 2001.

directors of Finance, Human Resources, and Information Technology are the primary stakeholders of the project because they have organizational responsibility for the core functions of ERP. If this group wishes to work more closely with the project team and meet more often than once a month, the EOSC should formally recognize their role as a subcommittee, clearly define the subcommittee's roles and responsibilities, and establish a means of communicating back to the larger group. You might also consider adding one or two additional members to the subcommittee to provide an operating department perspective.

Structure EOSC meetings to facilitate deliberation and decision-making. The EOSC should be prepared to discuss issues and make decisions. Is the purpose of the meeting to brief the members on progress; discuss and air views, questions and concerns; or make decisions? Some of each may be appropriate as the occasion warrants, but the agenda and structure of the meeting should make it clear what the group is doing.

The following suggestions will help to provide structure to the meetings. Develop a meeting agenda that identifies questions for discussion and what decisions need to be made. Open the meeting with a brief discussion of what the group should try to accomplish. To encourage deliberation, avoid framing issues as yes or no questions. During discussion, summarize key points of agreement and disagreement for each agenda item. If it isn't clear that there is consensus among the group, it may be appropriate to ask for a vote. Summarize group decisions orally at the close of the meeting and in writing. The written summaries should be made available to EOSC members, project team, and cross-functional team.

If you have any questions, please feel free to call Amanda Noble or me.

Inter-Departmental Communication

DATE: February 8, 2002

TO: Gail Roper, Director of Information Technology

FROM: Mark Funkhouser, City Auditor

SUBJECT: Review of Business Case Report Draft

We reviewed the draft Business Case Report with project team revisions dated January 11, 2002, and the system replacement strategy. Our objective was to determine whether the business case report identifies the risks, costs, and benefits of the ERP system. Guidelines for reducing risk in information technology acquisitions suggest that organizations should assess alternatives for meeting identified needs and the acquisition should be linked to an overall strategy.

Summary

The business case appears realistic in light of user needs, expected changes in the technology, and expected availability of maintenance and other support. The budget estimates appear comprehensive, including one-time and recurring costs for system components and services, estimates for application software, software installation, conversion, and training. Implementing an ERP system and redesigning processes is consistent with the city's overall strategy of focusing on citywide applications and minimizing customization.

Issues and Observations

The purpose of the business case is to assess alternatives to address challenges the city faces in the functional areas of general accounting, budget, human resources, payroll, procurement, and revenue and tax collection. The business case evaluated the impact on the city of replacing its current core enterprise wide financial applications and other applications with a new ERP system. It also assessed risks related to implementing an integrated financial system.

The business case identified current business challenges the city is facing. Currently, the city uses more than 22 separate systems to partially automate its financial and business processes. The lack of system integration and limited system functionality results in challenges for the city, such as proliferation of manual tasks, increased processing time, limited information access, lack of internet readiness, etc.

The Business Case identifies two alternatives to address these challenges: (1) conduct full business process redesign followed by reengineering the existing financial and business systems to meet the redesigned business processes; and (2) acquire an Enterprise Resource Planning (ERP) system and utilize system-centric business process reengineering.

Gartner Consulting recommended that the city move forward with the selection and implementation of an ERP system to replace existing systems and apply best practices inherent in the new system to achieve process reengineering and resolve its current business challenges. Replacing these systems will position the city to overcome existing and future challenges related to financial and business operations and support the city's strategic goal of providing e-government services to constituents, suppliers, potential businesses, and existing businesses.

The direct acquisition and implementation costs of an ERP system for the city is estimated to be within a range of $10.8 million and $20.2 million depending on the vendor selected. Ongoing system maintenance costs are estimated to be between $390,000 to $710,000. More than half of the estimated costs was categorized as integration services, which include application software implementation, integration, and data conversion assistance and project management. However, these costs are not further broken down in the cost estimates.

Inter-Departmental Communication

DATE: March 29, 2002

TO: Gail Roper, Director of Information Technology

FROM: Mark Funkhouser, City Auditor

SUBJECT: ERP – Requirements Revision Process

We reviewed fields of the requirement change control database dated January 31, 2002. Our objective was to determine whether a requirement revision process was in place to ensure that the requirements clearly and accurately reflect user needs. We are writing this memo to provide information for your use in managing project risks.

Summary

The city's Enterprise Project Management Office (EPMO) has identified a formal process for revising requirements during the acquisition – requirement change control database. However, elements such as identifying a core set of basic requirements, a person responsible for reviewing and approving changes to the requirements, and a basis for approving the changes are not addressed. These elements along with the requirement change control database can help ensure that the requirements clearly and accurately reflect user needs.

Issues and Observations

One of the mechanisms to ensure that the city defines its requirements well enough to support the acquisition of hardware, software, telecommunications, and system development services is to determine a process for revising requirements during the acquisition.

Guidelines regarding revising requirements during the acquisition suggest that organizations should identify the following:

- A core of basic requirements in order to maintain project scope;
- A formal change control process;
- The person who is responsible for reviewing and approving changes to requirements;
- The basis for approval (validated against mission needs); and
- Impacts of proposed changes on the other elements.

The EPMO has developed a requirement change control database. The database includes fields such as department, project, contact person, owner, date logged, functional area, requirement name, description, explanation of why the change is needed, and status of the request. According to the EPMO manager, documentation will be developed along with the database that will include a recommendation on forming a Change Control Board to approve the changes.

While the EPMO identified a change control process, other elements were not addressed in the requirement change control database. We recommend you identify a core set of basic requirements, the person responsible for reviewing and approving the changes, and the basis for approving changes.

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Appendix B

City Manager's Response

OFFICE OF THE CITY MANAGER

DATE: April 8, 2002

TO: Mark Funkhouser, City Auditor

FROM: Robert L. Collins, City Manager

SUBJECT: REVISED RESPONSE - Draft Audit Report on ERP Pre-Solicitation

I have reviewed the draft audit report on ERP Pre-Solicitation and are in general agreement with its content.

Recommendation 2:

Agree - The Sub-Group of Six of Executive Oversight Steering Committee are the responsible project sponsor and will be accountable for the acquisition and implementation of the systems. I will prepare a memo that establishes the EOSC responsibility. The members of the Sub-Group of Six are:

- Gail Roper, Director, Information Technology Department
- Kevin Riper, Director, Finance Department
- Ed Wolf, Assistant City Manager & Director of Public Works Department
- Gurnie Gunter, Director, Water Services Department
- John Thigpen, Director, Human Resources Department
- Major Charles Rice, Kansas City Police Department

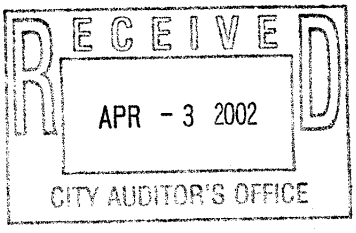
Please call me if you need additional information.

Robert L. Collins

RLC:emm

Please note: The above revised response was received after the report was printed.

OFFICE OF THE CITY MANAGER



DATE: April 3, 2002

TO: Mark Funkhouser, City Auditor

FROM: Ed Wolf, Acting City Manager

SUBJECT: Draft Audit Report on ERP Pre-Solicitation

We have reviewed the draft audit report on ERP Pre-Solicitation and are in general agreement with its content.

Recommendation 2:

Agree - The Executive Oversight Steering Committee is the responsible project sponsor and will be accountable for the acquisition and implementation of the systems. I will prepare a memo that establishes the EOSC responsibility.

Ed Wolf

RLC:emm

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Appendix C

Director of Information Technology's Response

Interdepartmental Communication

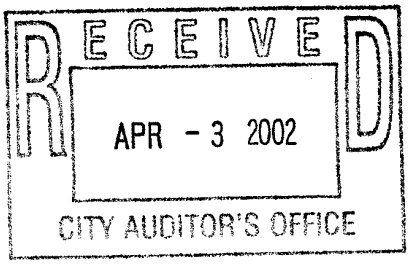
DATE: March 31, 2002

TO: Mark Funkhouser, City Auditor

FROM: Gail Roper, Director of Information Technology

SUBJECT: Response to Draft Audit Report Dated – April 1, 2002- Pre-Solicitation

Attached is the written response requested by the Auditor's Office by Thursday, April 4, 2002. This memorandum in the response to the draft audit dated April 1, 2002.



Response to Findings and Recommendations

ERP risks related to project schedule, implementation issues, and costs:

The risk of information technology initiatives remains a significant concern for the Information Technology Department and the industry in general. The information technology portfolio is now the nation's largest and riskiest capital portfolio. These risks include cost overruns, uncertain benefits and interference with business. The Information Technology's Strategic Plan identifies practices that must be adopted in order to quantify risk and provide risk mitigation. The Enterprise Project Management Office was established to develop a risk mitigation strategy for technology initiatives for Kansas City. The Enterprise Resource Planning project and other Information Technology initiatives adopted by the Enterprise Project Management Office will undergo a risk analysis beginning with the initiation phase of the project through the close of the project. The Information Technology Department is in agreement with the recommendations of the audit that recognize Information Technology (ERP) as a risk.

In order for the organization to understand that risks jeopardize funding and resources, the Information Technology Department moved towards a total cost of ownership approach to managing information technology initiatives. We believe that managing risk begins with measuring risk. As part of the total cost of ownership methodology the risk analysis defines and promotes the sharing of issues and solutions. The Enterprise Project Management Office will promote a formal process by providing training, documentation, and a standard tracking process for project risk. The Information Technology Department will adopt specific risk mitigation standards from the initiation of the project through project closure. Although the risk issues have been discussed from the beginning of the Enterprise Resource Planning project, the Information Technology Department strongly believes that a formal approach is required to identify potential risk and establish a risk avoidance strategy.

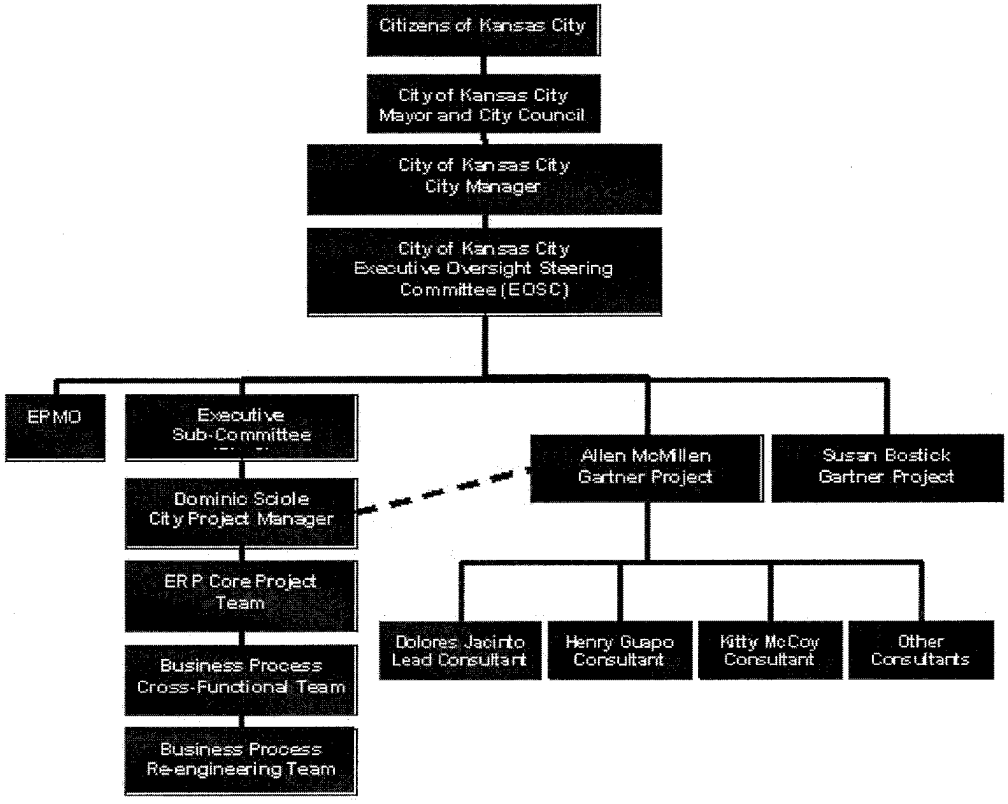
Since Enterprise Resource Planning has a high-risk characteristic the Information Technology Department, Executive Oversight Committee, and stakeholders will recommend the following to the City Council:

- Purchasing of an enterprise computer off-the-shelf package that isn't a perfect fit, but is close.
- Managing the implementation strategy to focus on fewer high-return features and strategize on additional functionality implementations.
- Focus on the skill requirements to provide post implementation support including selective outsourcing.
- Address and provide a support system to manage cultural change, business process re-engineering and change management.
- Provide strong leadership, centralized decision making, and governance.
- Provide clear roles and responsibilities.
- Establish a formal communications plan.
- Define a structured selection process.

The ERP Organizational Structure

Exhibit A:

Project Organization Chart for ERP Implementation Strategy



The Business Process Re-engineering Team

The Information Technology Department agrees with the audit and will continue to design processes that support the inclusion of stakeholders at all levels in the organization, including the executive level. The Enterprise Resource Planning organizational structure is designed to provide an established hierarchy to address change management, business process re-engineering, and legislative decisions. The business process re-engineering aspect required to implement the Enterprise Resource Planning will be managed by a sub-group of the Executive Oversight Committee. The Business Process Re-engineering Team will include executive participation from the City Manager's Office. Anita Maltbia and John Franklin have agreed to participate in this important effort. This sub-committee will also have a mix of representation from the operating departments. The main objective of this team is to establish the required standards to improve current processes to meet the goals of enhanced efficiency and providing business value to the organization.

The primary objective of the re-engineering effort will include the development and training of the team to understand and implement a methodology so that the "AS IS" processes are not adopted and re-instituted.

The ITD agrees that the gathering of requirements from current stakeholders was cumbersome and that some found it difficult to separate system functionality from institutional barriers. The educational process will be defined and facilitated prior to embarking on the task of business re-engineering.

The Requirements Process

The Enterprise Project Management Office is developing best processes for ensuring the requirements identified for Kansas City are documented, tracked and incorporated into the statement of work for the chosen implementation vendor(s). The Enterprise Resource Planning Core Team is working to document major business rules to support the identification of true business requirements. The requirements will be cataloged by the project manager to eliminate oversight and promote vendor accountability. The Information Technology Department is in agreement with the audit that the requirements process should be strengthened to promote accountability by both the city and the vendor.

Next Steps:

- Issues database completed and rolled out to the project team.
- Change management process database in testing phase.
- Risk management process is being developed.
- The Business Process Re-engineering team staffed and trained.
- The Business Case Strategy presented to the Council on April 11, 2002.

In summary, the Information Technology Department agrees with the summary of findings identified in the audit. The audit supports the actions taken to date and provides insight on future requirements.

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